
VIRGINIA CLEAN ENERGY AND COMMUNITY FLOOD PREPAREDNESS ACT

*A Joint Report to Governor Ralph S. Northam
and the General Assembly of Virginia*

Department of Environmental Quality
Department of Housing and Community Development
Department of Conservation and Recreation
Department of Energy

DECEMBER 2021

EXECUTIVE SUMMARY

This report was prepared pursuant to § 10.1-1330 of the Code of Virginia which directs the Department of Environmental Quality (DEQ), the Department of Conservation and Recreation (DCR), the Department of Housing and Community Development (DHCD), and the Department of Energy (DOE) to, beginning January 1, 2022, annually prepare a joint annual written report describing the Commonwealth's participation in the Regional Greenhouse Gas Initiative, the annual reduction in greenhouse gas emissions, the revenues collected and deposited in the interest-bearing account maintained by the Department of Environmental Quality pursuant to the Clean Energy and Community Flood Preparedness Act, and a description of each way in which money was expended during the fiscal year.

SECTION 1 – DEPARTMENT OF ENVIRONMENTAL QUALITY

1.1 Introduction

Signed in April 2020 by Governor Northam, the Clean Energy and Community Flood Preparedness Act (CECFPA) directed DEQ to establish through regulation a carbon dioxide (CO₂) cap and trade program to reduce emissions released by electric generation facilities. The Act also authorizes Virginia to link its cap and trade program to the larger Regional Greenhouse Gas Initiative (RGGI).

Several executive actions concerning the development of a market-based mechanism to reduce carbon pollution preceded the signing of the Clean Energy and Community Flood Preparedness Act. Executive Order 57, signed by Governor McAuliffe in 2016, directed the Secretary of Natural Resources to convene a work group to study and recommend methods to reduce CO₂ from electric power facilities and grow the clean energy economy within existing state authority. This group facilitated extensive stakeholder engagement before submitting a final report with recommendations to the Governor.

Subsequently, in 2017, Governor McAuliffe signed Executive Directive 11, titled, “Reducing Carbon Dioxide Emissions from the Electric Power Sector and Growing Virginia’s Clean Energy Economy.” This order directed DEQ to develop a regulation to control CO₂ from electric power facilities that allows for the use of market-based mechanisms and the trading of CO₂ allowances through a multi-state trading program.

Although the regulation was officially adopted in 2019, language in the 2019 budget effectively suspended its implementation. Then, as noted above, during the 2020 Session, the General Assembly passed the Clean Energy and Community Flood Preparedness Act. Pursuant to the Act, DEQ adopted a revised regulation in June 2020 that converted the Carbon Trading Program from the prior consignment-based model to a direct auction trading system. The regulation was subject to a legal challenge in the Circuit Court for the City of Richmond. The Circuit Court upheld the regulation in July 2021.

1.2 Overview of the Carbon Trading Program

Virginia has chosen to implement its carbon trading rule pursuant to Clean Energy and

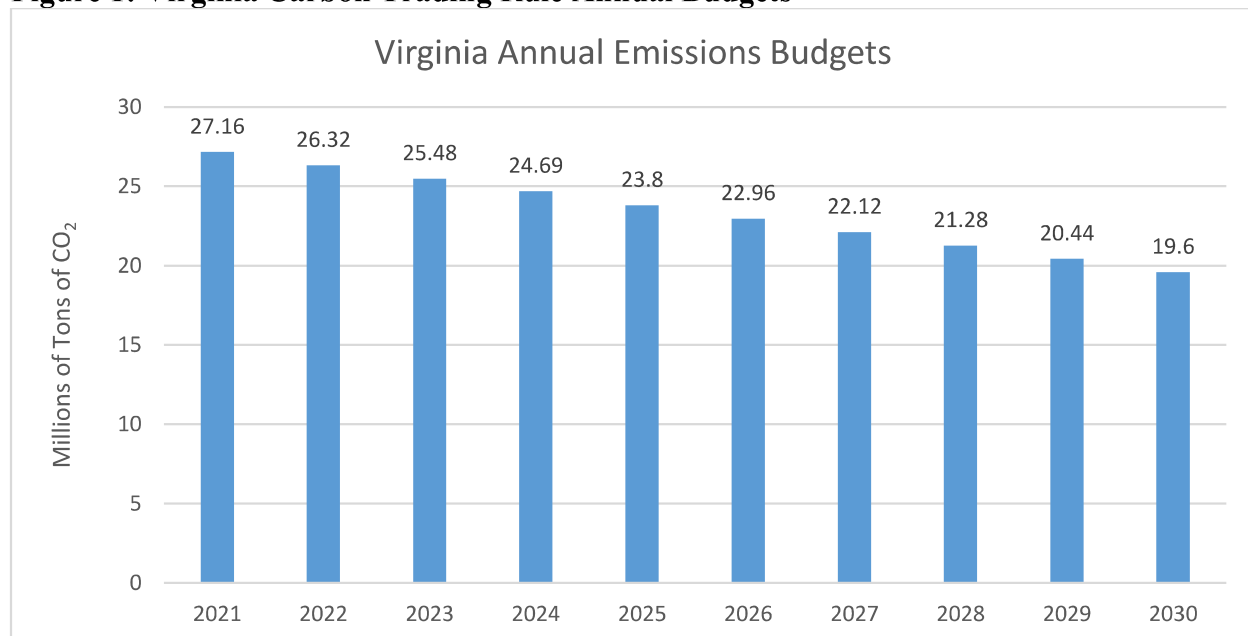
Community Flood Preparedness Act by participating in the Regional Greenhouse Gas Initiative, which currently has 11 participating states in the mid-Atlantic, and New England.

The RGGI program serves a dual purpose in that it is a cap and trade program for regulated sources where allowances can be purchased for each ton of CO₂ emissions. These allowances can then be used for compliance purposes, banked for future use, or traded to other sources. These allowances are fully fungible and can be used throughout the RGGI program area. At the end of each three-year compliance period, regulated sources must surrender the number of allowances equal to their CO₂ emissions during the compliance period.

For participating states, the RGGI program serves as a cap and invest program where each state offers their allowances based on established emissions budgets for sale during quarterly auctions. As these emission budgets decrease over time, so do the regional CO₂ emissions. The proceeds from the auctions are returned to the states to fund climate related programs.

The Virginia Carbon Trading Program regulation establishes a declining annual budget on carbon dioxide emissions from power plants consistent with the RGGI reduction goals. To comply with the regulation, power generators must reduce emissions and purchase allowances through quarterly auctions administered by RGGI, Inc., the curating non-profit organization for the RGGI program, on behalf of DEQ. Emissions reductions are secured as the budget is lowered over time. From 2020 to 2030, the power sector emissions budgets among Virginia and the RGGI states will decrease by 30%. Virginia's annual emissions budgets are shown in Table 1.

Figure 1: Virginia Carbon Trading Rule Annual Budgets



Source: Virginia Carbon Trading Program Regulation

The Clean Energy and Community Flood Preparedness Act provides that 45% and 50% of the proceeds generated from the auctions are used to fund the Virginia Community Flood Preparedness Fund (CFPF) and the Housing Innovations in Energy Efficiency (HIEE) program,

respectively. The CFPF helps localities across the Commonwealth reduce the impacts of flooding by implementing flood prevention and protection projects. The HIEE program makes energy efficiency upgrades to new and existing residential buildings to reduce energy bills for low-income Virginians. DEQ receives 3% of auction revenues to cover administrative expenses related to running the Program and to carry out statewide climate change planning and mitigation activities. The Department of Housing and Community Development, in partnership with the Virginia Department of Energy, receives 2% of the proceeds to administer and implement the low-income energy efficiency programs.

Virginia's participation in RGGI is expected to facilitate Virginia's energy transition and the goal of achieving 100% carbon-free electricity generation by 2045 set forth in the Virginia Clean Economy Act.

1.3 Sources Affected in Virginia

A total of 27 electric generating facilities in Virginia are currently subject to the carbon trading rule. The combined capacity of these facilities is 19,922 megawatts (MWs) and their combined emissions in 2020 were 31.4 million tons of CO₂. In terms of fuel specific generation, 2,827 MWs of coal-fired generation emitted 4.4 million tons of CO₂, 14,765 MWs of natural gas-fired combine cycle generation emitted 26.9 million tons of CO₂, and 2,330 MWs of oil-fired generation emitted 0.1 million tons of CO₂. A list and map of the affected sources in Virginia are presented in Table 1 and Figure 2. Some sources are not visible on the map due to their proximity to each other.

Table 1: RGGI Sources in Virginia

	County	Plant Name	Capacity (MW)	2020 CO₂ Emissions (Tons)
1	Buckingham	Bear Garden Generating Station	559	1,805,606
2	King George	Birchwood Power Facility	258	108,616
3	Brunswick	Brunswick County Power Station	1,472	4,135,381
4	Buchanan	Buchanan Units 1 & 2	88	258,931
5	Chesterfield	Chesterfield Power Station	1,500	2,020,768
6	Russell	Clinch River	475	184,040
7	Halifax	Clover Power Station	848	1,432,252
8	Accomack	Commonwealth Chesapeake	403	20,758
9	Henrico	Darbytown Combustion Turbine	368	80,893
10	Hanover	Doswell Limited Partnership	1,313	3,097,621
11	Chesapeake City	Elizabeth River Combustion Turbine	389	63,055
12	Louisa	Gordonsville Power Station	300	594,369
13	Surry	Gravel Neck Combustion Turbine	408	113,015
14	Greensville	Greensville County Power Station	1,773	4,189,822
15	Hopewell	Hopewell Cogeneration Facility	399	1,025,984
16	Caroline	Ladysmith Combustion Turbine Station	893	682,849
17	Louisa	Louisa Generation Facility	509	238,055
18	Fauquier	Marsh Run Generation Facility	513	355,517
19	Loudoun	Panda Stonewall Power Project	812	2,012,751
20	Prince William	Possum Point Power Station	1,591	1,604,137

21	Fauquier	Remington Combustion Turbine Station	706	419,714
22	Accomack	Tasley Energy Center	27	0
23	Fluvanna	Tenaska Generating Station	1,011	1,925,324
24	Wise	Virginia City Hybrid Energy Center	668	1,109,652
25	Warren	Warren County Power Station	1,472	3,747,811
26	Washington	Wolf Hills Energy	285	68,266
27	York	Yorktown Power Station	882	62,396
TOTALS			19,922	31,357,583

Source: EPA Air Markets Program Data, EIA Form 860

Figure 2: RGGI Regulated Sources

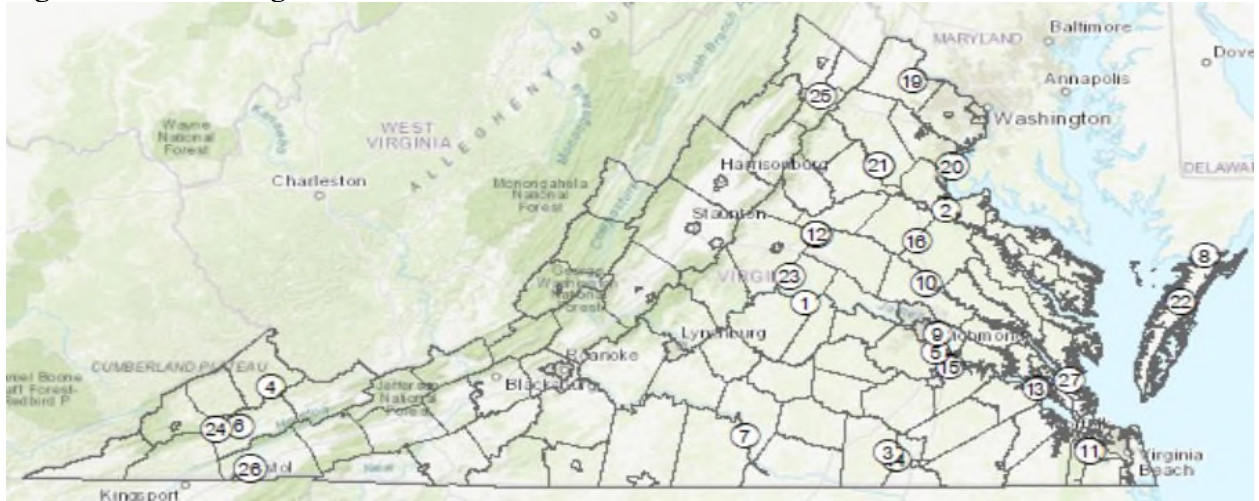
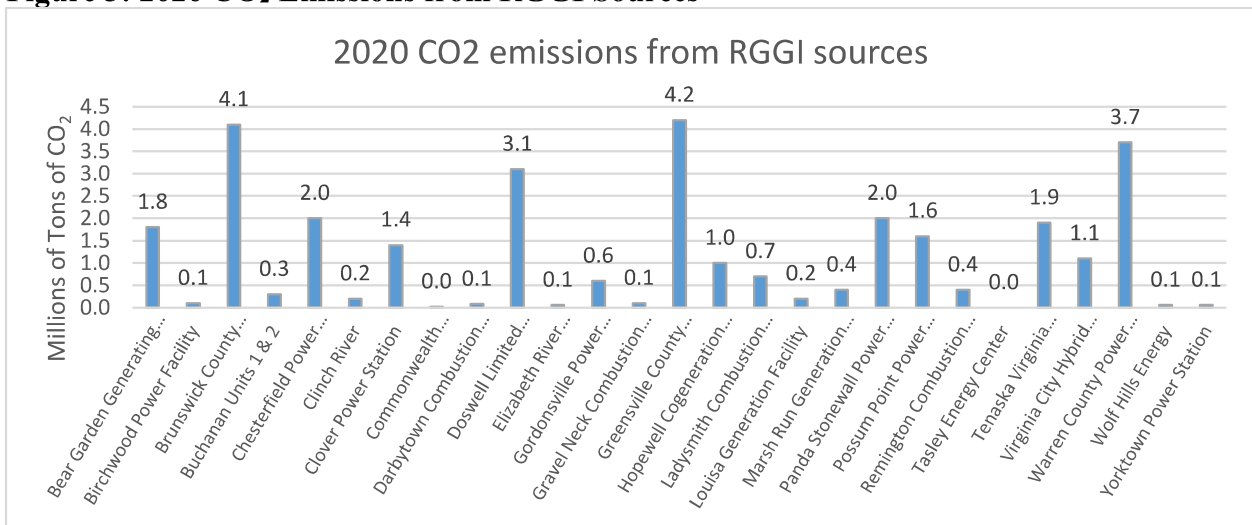


Figure 3 shows the 2020 emissions from each of the sources regulated under the carbon-trading rule. The largest CO₂ emitting sources in Virginia in 2020 were newly constructed and highly efficient combined cycle natural gas-fired facilities. Further discussion of the transition of the Virginia power sector to more efficient and less-polluting generation is available in Section 1.4.

Figure 3: 2020 CO₂ Emissions from RGGI Sources



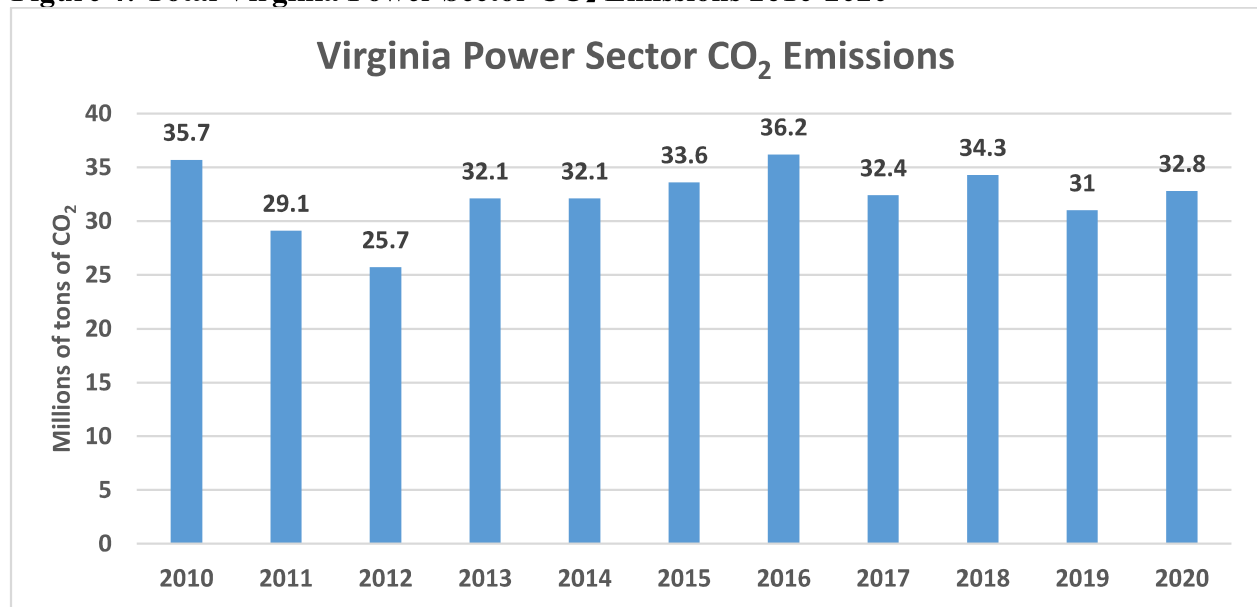
Source: EPA Air Markets Program Data

1.4 Virginia Power Sector Trends

The Virginia power sector historically produced the majority of electricity generation and carbon emissions from the combustion of coal. In 2005, half of the total electricity generation and 80% of CO₂ emissions came from coal-fired units and facilities. Since then, a transition in the Virginia power sector has occurred with coal being replaced with cleaner burning natural gas, and the introduction of renewables. Natural gas overtook coal as the largest fossil fuel generation source in 2012. The other major in-state electricity source is zero-carbon emitting nuclear generation from two nuclear plants in Virginia. The level of nuclear generation has remained mostly constant over the years. To further document this transition a series of figures are presented below.

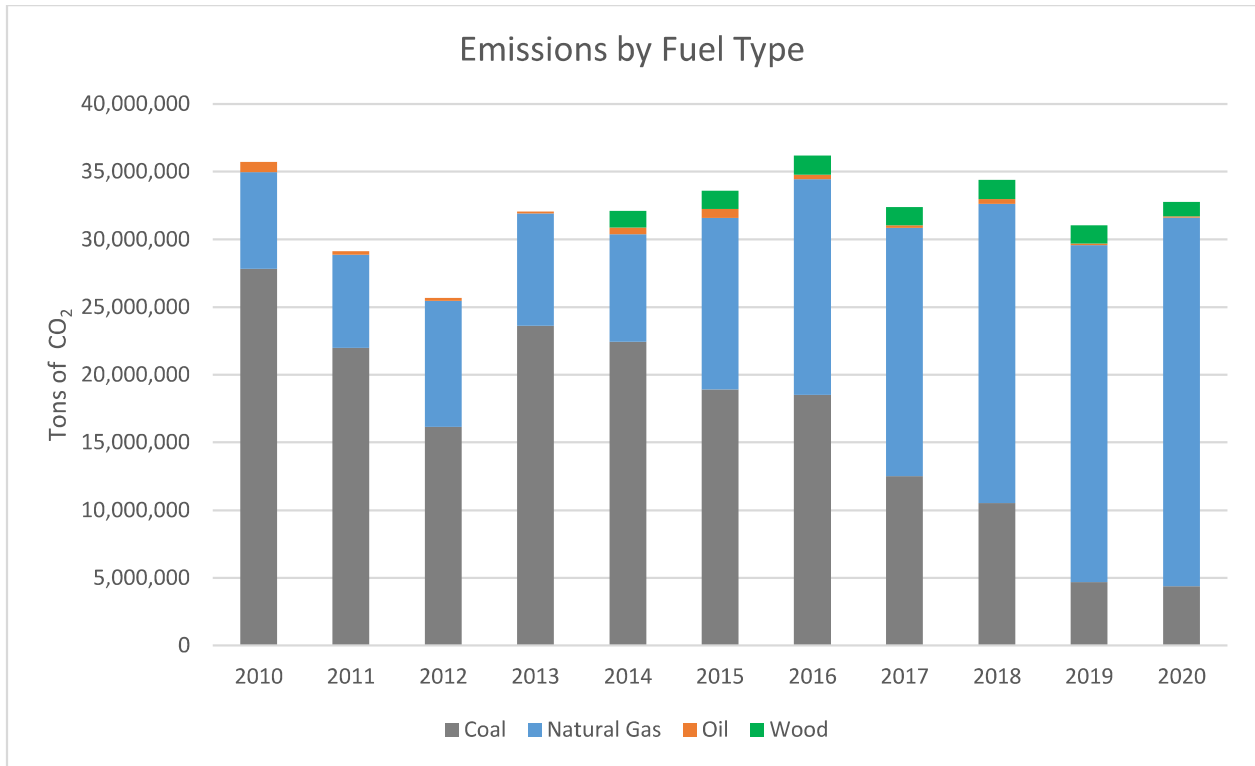
- Figure 4 shows the CO₂ emissions from the Virginia power sector from 2010 to 2020. Sector emissions have varied from year to year due to normal factors such as seasonal weather conditions and changes in electricity demand with no obvious trend either up or down. At first this would seem to contradict the transition from coal to cleaner natural gas generation. Much of the continuing levels of power sector CO₂ emissions is due to the addition of a substantial amount of natural gas generation capacity during this ten-year period with a corresponding increase of in-state electricity generation which has also reduced the amount of power imported into Virginia as shown in the next two figures.
- Figure 5 shows the same total emissions by year and broken down by fuel use. This shows the decrease in CO₂ emissions from coal generation and increase in emissions from increased natural gas generation.
- Figure 6 most noticeably shows the power sector transition with the large decrease in coal generation, and even larger increase in natural gas generation and overall in-state generation.

Figure 4: Total Virginia Power Sector CO₂ Emissions 2010-2020



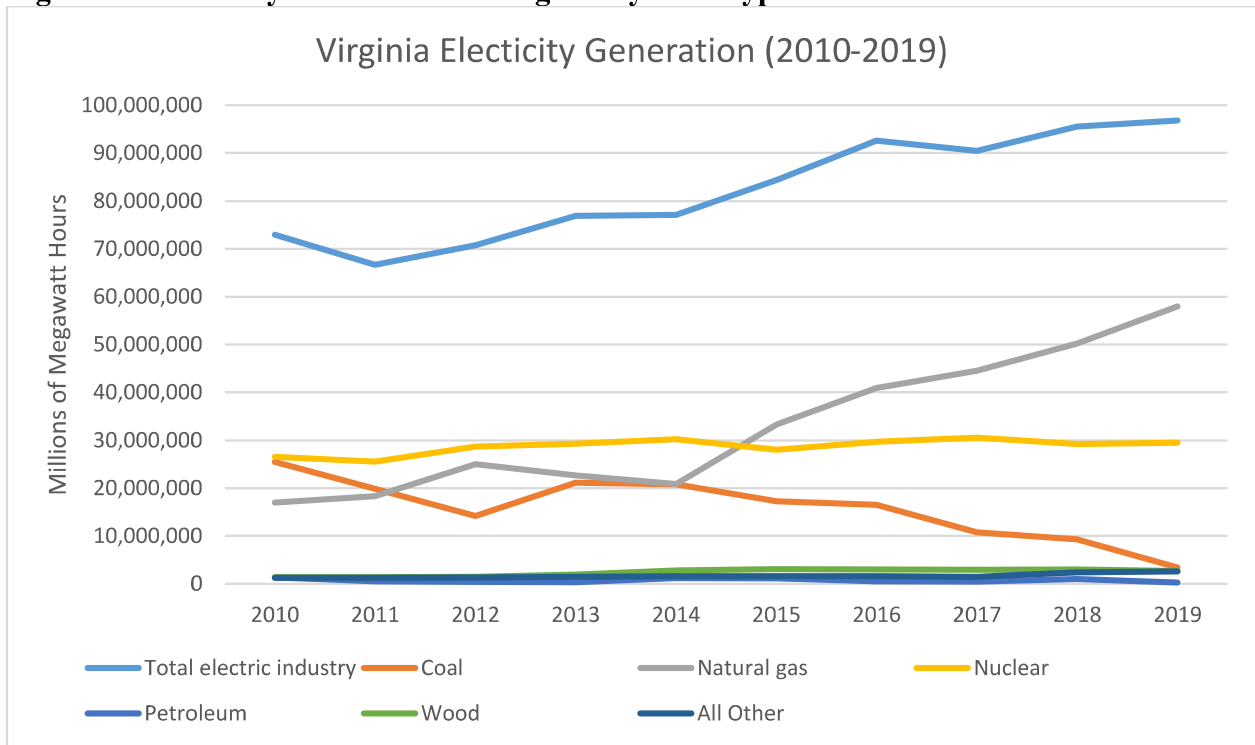
Source: EPA Air Markets Program Data

Figure 5: Power Sector Emissions by Fuel Type 2010-2020



Source: EPA Air Markets Program Data

Figure 6: Electricity Generation in Virginia by Fuel Type 2010-2019



Source: EIA State Energy Profile

Looking towards the future, it is expected that Virginia’s power sector CO₂ emissions will steadily decrease due to the combination of the decreasing annual emissions caps of the RGGI program and the long term clean energy requirements and goals of the Virginia Clean Economy Act.

The RGGI program is currently under review, which could yield changes in program reduction targets going forward, and in other notable program components such as environmental justice considerations. This program review is expected to be completed in 2023.

The Virginia Clean Economy Act (VCEA) sets forth specific mandates for the power sector including the shutter of most of the remaining coal and biomass electric generating facilities in Virginia, along with specific renewable energy generation targets and standards. Implementation of the Virginia Clean Economy Act is expected to lead to a carbon free power sector in the 2045-2050 timeframe. The Virginia Department of Energy (previously the Department of Mines, Minerals, and Energy) is currently conducting a study of the Virginia power sector going forward under the requirements of the VCEA that supports this conclusion. More information on that study can be found at <https://www.energy.virginia.gov/environmental/decarbonization.shtml>.

1.5 Source Specific Power Sector Changes

A number of source specific changes have occurred in Virginia’s mix of power generation that will impact current and future emissions and generation trends. These changes, identified as closures and fuel conversions, are presented below in Table 2. From 2010 to 2020, six coal facilities closed, while five large combined cycle natural gas facilities have opened. Three coal facilities converted to biomass (wood) and one converted to gas.

The impact of these changes is shown in Figure 7. During the 2010 to 2020 period, operating coal generation capacity has decreased but there has been a corresponding increase in natural gas capacity of over 5,000 megawatts.

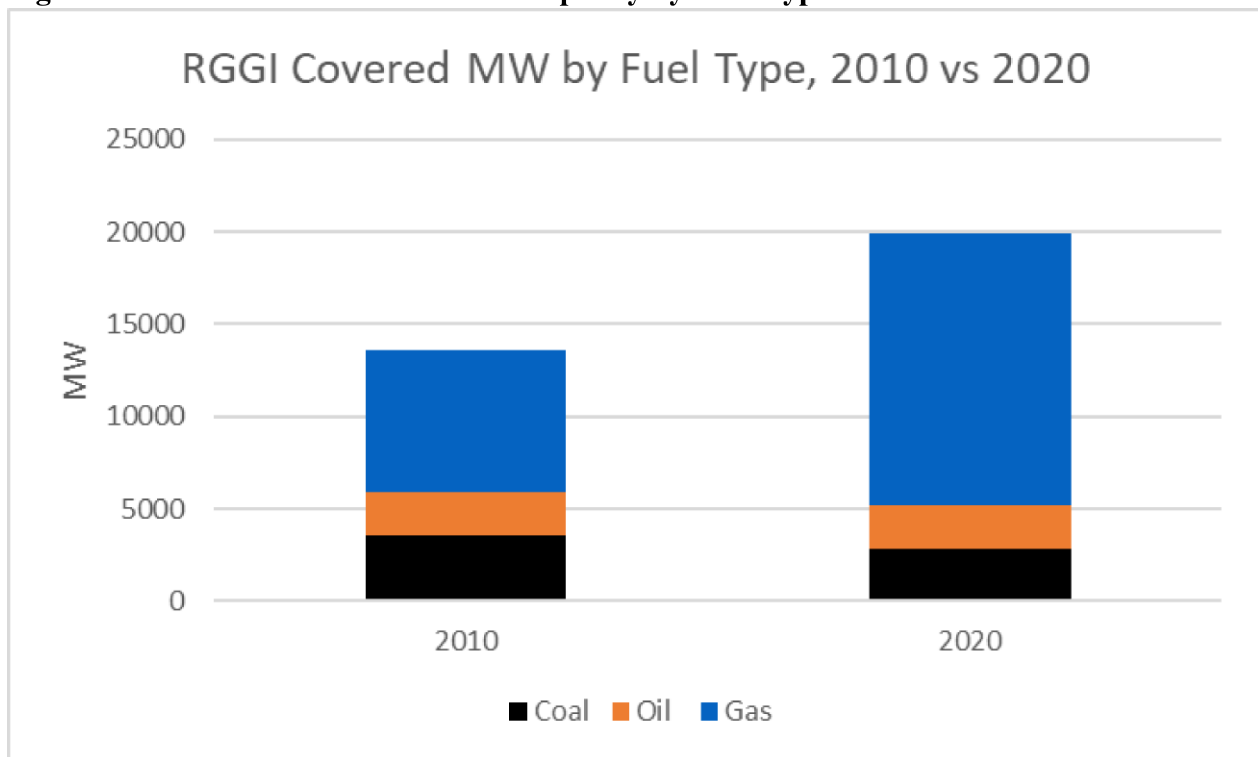
Table 2: Changes to Power Generation Sources in Virginia (2010-2020)

Plant Name	Change In Operation/Fuel	Year
Bear Garden Generating Station	Gas facility began operating	2011
Potomac River	Coal facility permanently closed	2012
Virginia City Hybrid Energy Center	Coal/biomass facility began operating	2012
Hopewell Power Station	Converted to biomass (wood) from coal	2013
NOVEC Halifax County Biomass Plant	Biomass facility began operating	2013
Southampton Power Station	Converted to biomass (wood) from coal	2013
Altavista Power Station	Converted to biomass (wood) from coal	2014
Bremo Power Station	Converted to gas from coal	2014
Chesapeake Energy Center	Coal facility permanently closed	2014
Warren County Power Station	Gas facility began operating	2014
Clinch River	Coal unit 3 retired, units 1 and 2 converted to gas	2015
Glen Lyn	Coal facility permanently closed	2015

Portsmouth Genco LLC	Coal facility permanently closed	2015
Brunswick County Power Station	Gas facility began operating	2016
Panda Stonewall Power Project	Gas facility began operating	2017
Bellemeade Power Station	Gas facility permanently closed	2018
Bremo Power Station	Gas facility permanently closed	2018
Chesterfield Power Station	Coal units 3 and 4 permanently closed	2018
Greensville County Power Station	Gas facility began operating	2018
Mecklenburg Power Station	Coal facility permanently closed	2018
Possum Point Power Station	Gas units 3 and 4 retired	2018
City Point Energy Center	Coal facility permanently closed	2019
Yorktown Power Station	Coal units 1 and 2 retired	2019
Possum Point Power Station	Oil unit 5 retired	2020

Source: PJM Generation Deactivations, EPA Air Markets Program Data tool

Figure 7: RGGI Covered Generation Capacity by Fuel Type 2010 and 2020



Source: EPA Air Markets Program Data tool, EIA Form 860

1.6 Regional Greenhouse Gas Initiative Auctions

RGGI, Inc. administers quarterly auctions on behalf of the RGGI states where it offers allowances for sale to compliance entities and other groups. Virginia first participated in Auction 51, which was held on March 3, 2021, and the Commonwealth has participated in three additional auctions for a total of four. A summary of auction results for 2021 is available in Table 3, and a distribution of funds raised from auctions is shown in Table 4.

It should be noted that RGGI, Inc. receives a small portion of Virginia’s quarterly auction

proceeds to fund its annual operating budget. Virginia’s total payment to RGGI, Inc. for 2021 is \$592,920.08.

Table 3: 2021 Auction Results Summary

	Allowances Sold	Allowance Price	Allowance Proceeds
Auction #51	5,735,509	\$7.60	\$43,589,868.40
Auction #52	5,698,446	\$7.97	\$45,416,614.62
Auction #53	5,698,445	\$9.30	\$52,995,538.50
Auction #54	6,587,274	\$13.00	\$85,634,562.00
Total	23,719,674		\$227,636,583.52

Table 4: Distribution of Funding

	RGGI	DHCD	DCR	DEQ	DHCD Admin
#51	\$148,230.02	\$21,720,819.19	\$19,548,737.27	\$1,303,249.15	\$868,832.77
#52	\$148,230.02	\$22,634,192.30	\$20,379,773.07	\$1,358,051.54	\$905,367.69
#53	\$148,230.02	\$26,423,654.24	\$23,781,288.82	\$1,585,419.25	\$1,056,946.17
#54	\$148,230.02	\$42,743,165.99	\$38,468,849.39	\$2,564,589.96	\$1,709,726.64
Total	\$592,920.08	\$113,521,831.72	\$102,178,648.55	\$6,811,309.90	\$4,540,873.27

SECTION 2 – DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT

2.1 Stakeholder Advisory Group and Housing Innovations in Energy Efficiency (HIEE) Program Development Framework

The Department of Housing and Community Development (DHCD) prepared for investments of Regional Greenhouse Gas Initiative (RGGI) funds by choosing to brand the RGGI funds the agency would manage as Housing Innovations in Energy Efficiency (or HIEE) funding. The HIEE label would also allow for differentiation between RGGI funds managed by the Department of Conservation and Recreation (DCR).

To facilitate a transparent program development process for the public and stakeholder groups, DHCD convened a broad-based, 15-member HIEE Stakeholder Advisory Group (SAG), with representatives from affordable housing developers, consumer and environmental advocacy groups, weatherization providers, academia, and subject matter experts on energy efficient buildings. SAG members were selected from a list of over 100 parties that expressed interest in participating via DHCD’s website. The SAG met monthly starting in December, 2020, to provide input and guidance to DHCD on the HIEE program development process and RGGI funding allocations. All SAG meetings were open to the public and recorded, and public comments were taken both verbally during the meetings and in writing. Meeting recordings and presentation materials are available on the [HIEE webpage](#).

DHCD and the Stakeholder Advisory Group reached general agreement during the first two meetings on the principle that channeling HIEE funds through existing affordable housing programs would be the most efficient and effective means to quickly deploy resources to serve Virginians. The process of developing and standing up a new and separate program (or programs) could cause delay, and be a source of potential market confusion. The HIEE funds offer additional resources for project developers to achieve higher energy efficiency performance, or “additionality,” a concept that expresses the improved outcomes that would not have occurred absent an incentive.

HIEE Stakeholder Advisory Group Members:

- Liz Beardsley, US Green Building Council
- Nate Benforado, Southern Environmental Law Center
- Carmen Bingham, Virginia Poverty Law Center
- KC Bleile, Viridiant
- Janaka Casper, Community Housing Partners
- Eric Claville, Norfolk State University
- Michelle Foster, Home Innovation Research Lab
- Chelsea Harnish, Virginia Energy Efficiency Council

- Dawone Robinson, Natural Resources Defense Council
- Sunshine Mathon, Piedmont Housing Alliance
- Brian Staub, Marlyn Development Corporation
- Adam Stockmaster, TM Development Corporation
- Narissa Turner, Virginia Conservation Network
- Karen Wilds, Newport News Redevelopment and Housing Authority

The final SAG meeting will occur in December 2021, and starting in 2022, the SAG will no longer meet as currently configured. Instead, DHCD will transition to twice-yearly (spring and summer) HIEE public input sessions open to all interested stakeholders. The two annual input sessions are consistent with practices in other established DHCD programs and will allow for comments on upcoming fiscal year allocations of HIEE funds and any proposed program adjustments.

2.2 HIEE Program Investments and Funding Allocation Percentages

As this report is prepared, four RGGI auctions have taken place in 2021: March 3, June 2, September 8, and December 1. Net RGGI proceeds (50 percent to programs) to DHCD are \$113,521,832. RGGI auction clearing prices for these auctions have been significantly higher than initially predicted in late 2020, so net proceeds have been greater than expected.

DHCD has used the RGGI administrative funds (2 percent of net proceeds or \$2,833,694) to begin staffing the Energy Efficiency Office, a new team in the Community Development and Housing Division, which is tasked with overseeing implementation of the HIEE funding across multiple programs and creating new programs. Three staff positions are filled at the time of this report (Associate Director, Program Administrator, and Technical Monitor-Inspector) with additional in process.

Because actual RGGI revenues received depend on each quarterly auction’s clearing price and the number of allowances offered, DHCD proposed three funding components for the HIEE funding and allocation percentages that would guide the overall level of investment per fiscal year. This approach was supported by consensus of the SAG. Table 1 provides percentage allocations and actual obligations for Fiscal Year 2021 HIEE funds. More detail on these HIEE program funding investments is provided below the table.

Table 2.1 – Fiscal Year 2021 HIEE investments

HIEE Component	Fiscal Year '21 - % HIEE allocation	Net to DHCD <i>(\$21.7m from March, 2021 auction)</i>	Actual Allocation <i>(total \$21.1m)</i>

Weatherization Deferral Repair (WDR) Program	60%	\$13.0m	\$15.2m
Affordable and Special Needs Housing (ASNH) Program	40%	\$8.7m	\$5.9m
Housing Energy Efficiency Partnerships Grants	0%	\$0 m	\$0

1. Weatherization Deferral Repair (WDR) program

WDR utilizes HIEE funds for incidental repairs to reduce deferrals and increase access to services through DHCD’s Weatherization Assistance Program (WAP). The purpose of the WDR program is to make repairs that have caused homes (or units in multifamily buildings) to be deferred from the WAP because of restrictions on use of federal funds. Once needed repairs are made and the weatherization grantee deems the home or building “weatherization-ready,” the energy efficiency and health and safety measures available through WAP (such as insulation, air sealing, energy efficient light bulbs, and carbon monoxide detectors) may be installed. Clients must sign an agreement with the weatherization agency, agreeing to both the WDR repairs and the weatherization services.

The WDR program is delivered by the network of 17 local weatherization agency grantees, and clients must work with the local weatherization agency serving their area through the WAP. DHCD has grant agreements in place with all of the weatherization agencies for use of the HIEE funds to provide WDR services statewide. Because WAP is a federally funded and regulated program, separate agreements were established with the weatherization agencies for WDR.

Based on information provided to DHCD by the weatherization agencies, approximately 350 single-family homes and 700 dwelling units in multi-family buildings have deferral repairs needed and may be served through the WDR program. In order to qualify for WDR, clients must meet WAP income eligibility requirements (household income must be at or below 60 percent of state median income) and have an energy audit done.

The Weatherization Deferral Repair Program Guidelines are available, [here](#).

2. Affordable and Special Needs Housing Program (ASNH)

HIEE funds are available through DHCD’s [Affordable and Special Needs Housing](#) (ASNH) program to support development of new affordable housing units and renovation of existing buildings providing affordable housing. HIEE funds are offered as forgivable, no-interest loans to developers to significantly increase energy efficiency in the housing units built or preserved. In order to receive HIEE funds, developers must provide a fundable ASNH application, which qualifies for at least one of the four traditional funding sources available under ASNH (National Housing Trust, HOME, Virginia Housing Trust Fund, or State Permanent Supportive Housing) and must demonstrate the building is designed to meet the additional HIEE performance criteria. Developers may receive HIEE funds up to 10 percent of total construction costs, with a cap of \$2 million per qualifying project. The HIEE performance criteria (shown in Table 2 below) were developed ahead of the spring, 2021 ASNH application round in consultation with the SAG, and build upon the existing energy efficiency performance requirements of Virginia Housing’s Low-Income Housing Tax Credit (LIHTC) program.

Low- to moderate-income Virginians benefit from the HIEE funds available through ASNH by having access to affordable rental housing units that are more energy efficient and offer improved indoor air quality. For example, \$5.9 million in HIEE funds obligated through the spring 2021 ASNH application round provided additional funding to 11 projects, comprising over 700 dwelling units of either new or substantially renovated affordable housing. Energy modeling conducted on behalf of DHCD by Virginia Tech’s [Center for Housing Research](#) predicts that occupants of typical newly constructed apartments in an affordable housing project will save about \$200 annually in energy costs by virtue of the HIEE requirement for Zero Energy Ready Homes level of performance.

Guidelines for the 2021-2022 Affordable and Special Needs Housing Program including the HIEE requirements are available, [here](#).

Table 2.2 – HIEE Additional Energy Efficiency Requirements for ASNH projects

Project Type	VA Housing Low-income Housing Tax Credit (LIHTC) Program Requirements	HIEE Requirements
New Construction	ENERGY STAR v3.0	Zero Energy Ready Homes (ZERH)

Substantial Rehab	30% improvement in HERS* index or HERS index 80 (or below)	40% improvement in HERS index or average of HERS 70 (or below) across all units
Adaptive Reuse	HERS index 95 (or below)	Average of HERS 80 (or below) across all units

**HERS refers to the [Home Energy Rating System](#), a national standard used to evaluate and compare energy efficiency performance across housing sizes and types. Similar to an MPG rating on a vehicle, the HERS index predicts energy use under typical building operating conditions.*

3. Housing Energy Efficiency Partnerships Grants

The purpose of the Housing Energy Efficiency Partnerships grant program is to utilize a portion of the HIEE funding to find new pathways, methods, and work processes for preserving, upgrading and maintaining existing affordable housing stock to significantly reduce energy burdens on low-income households, for both rental and owner-occupied housing units. This grant program will provide resources and facilitate new partnership opportunities to demonstrate innovative and scalable approaches to reducing energy use, carbon emissions and occupant energy burdens through deep energy efficiency retrofits of existing residential buildings designated as affordable housing and physically located in Virginia. Local governments, tribal governments, non-profits, community-based organizations, academic institutions, and other affordable housing industry partners will be eligible to apply and/or partner on applications.

The program draft proposal was reviewed and commented on by the SAG in May, 2021. The program proposal was revised and reformatted as a grant application process with application instructions and review criteria. The grant application process will go through a 30-day public comment period starting on October 11. If there are no significant comments or changes, the grant application will be opened up in DHCD’s Centralized Application Management System (CAMS) shortly thereafter.

The goal of the initial round of grants will be to demonstrate a deep energy retrofit approach that results in 50 percent reduction in occupant energy costs over a one-year period. Eligible building configurations include:

- Multi-family buildings of any size (renter tenants)
- Groups of detached single-family or attached townhomes (owner-occupied, or rentals with landlord’s permission)
- Groups of manufactured or mobile homes (owner-occupied, or rentals with landlord’s permission)
- Group homes or facilities providing housing and services for special needs or vulnerable populations, such as treatment and recovery

For the three primary investments of HIEE funds, DHCD has proposed and SAG supported a Fiscal Year 2022 allocation as shown in Table 3 below. DHCD will create programs with the projected \$55 million revenue and use any additional revenue above these amounts to allocate to programs with the most demand.

Table 2.3 – Fiscal Year 2022 HIEE Investments

HIEE Component	Fiscal Year '22 - % HIEE allocation	Projected revenue (\$55 m from Q2-Q4 2021 & Q1 2022 auctions)
Weatherization Deferral Repair Program	30%	\$16.5 m
Affordable and Special Needs Housing Program	60%	\$33 m
Housing Energy Efficiency Partnerships Grants	10%	\$5.5 m

2.3 HIEE Funding Contribution in Virginia’s Affordable Housing Development Market

The HIEE funds represent a significant new dedicated revenue stream for improving affordable housing in Virginia. The Affordable and Special Needs Housing (ASNH) program and Weatherization Assistance Program (WAP) have combined annual budgets of over \$50 million from federal and state sources. Virginia Housing’s Low Income Housing Tax Credit (LIHTC) program currently generates \$20-\$25 million annually for affordable housing projects in Virginia. These programs also encourage significant additional leveraged funding. In summary, HIEE funds are an important additional funding source for existing affordable housing programs that will provide flexibility to DHCD in helping thousands of low-income Virginians access more energy efficient and healthier homes.

SECTION 3 – DEPARTMENT OF CONSERVATION AND RECREATION

3.1 State Fiscal Year 2021– July 1, 2020 through June 30, 2021

During March and April of 2021, a project manager and administrative coordinator were hired to assist the Special Assistant to the Governor for Coastal Adaptation and Protection with the development of the Virginia Coastal Resilience Master Plan. The Master Plan details the Commonwealth’s equity driven approach to coastal protection and adaptation and enhances coastal resilience, better protects key assets, and provides cost-effective strategies to conserve and enhance natural flood controls. Also in March, negotiations were finalized with Dewberry Engineers, Inc. for the development of the final Master Plan. The Plan includes a coastal flood hazard assessment, a risk and impact assessment of community resources, critical sector infrastructure and natural infrastructure, including identification of “hotspots” those areas most vulnerable to coastal flooding in the near term, development of a project database and project prioritization process, development of a funding source database – searchable and aligned to identify specific funding sources by project, development of a publicly accessible web application and viewer to host all of the above deliverables, and a final document. The project database will provide a list of locality-approved projects throughout the coastal region that will be shovel ready when funding is available.

The contract, valued at \$2.8 million, is to be completed in two phases: Basic Services, described below, valued at \$1.4 million, completed November 30, 2021, and Additional Services, valued at \$1.2 million. Additional services anticipated include future condition modeling of fluvial and pluvial impacts, as well as other services as determined by the Commonwealth. In addition, the Commonwealth has added approximately \$200,000 of additional work, including five additional four hour working meetings with PDC/RC’s and Federal Installation partners (completed), and one working session with Virginia Tribes (pending), project ID and Capacity Building data collection, web application support and data hosting through November, 2022, and coastal flood hazard impact assessment through the year 2100. The contract Basic Services also include tracking and documentation tools as well as the following deliverables:

Task 1:

- Project coordination meeting with CRO/SACAP (24 meetings)
- Technical Advisory Committee Meetings Support and Minutes (7 meetings)
- Technical Advisory Subcommittee Meetings, Support and Minutes (49 meetings across 7 Subcommittees)

Task 2: Study Conceptual Model,

Task 3: Coastal Flood Hazard Framework, including Dynamic Future Condition Modeling Approach (Additional Services)

Task 4: Built and natural Infrastructure Risk Assessment Including Data Gathering, Impact Assessment and Risk Summarization

Task 5: Adaptation Strategies and Prioritization

Including Prioritization Framework, Project inventory, Identification, Suitability Assessment, Impact Assessment Working Meetings with PDC/RC's

Task 6: Funding Analysis

Including Funding databases and Analysis and Funding Stream Alignments by Project

Task 7: Master Plan Document

Task 8: Project Database and GIS Web Service

Including Wireframe, Web Application, and Data Migration

Task 9: External Outreach and Public Engagement (60 total meetings):

- Coastal Planning District Commissions (8 meetings),
- Local Governments (8 meetings),
- Local Communities with emphasis on Underserved and Rural Communities (32 meetings),
- Local Businesses/Industries (2 meetings),
- Universities/Military (2 meetings),
- Key Stakeholder Interviews (8 meetings),
- Social Media, Outreach Media, Press/event tracking and content (25 content items)
- Build, Conduct, Analyze surveys of (A) General Public and (B) Local Practitioners (2 Surveys)

Throughout this process the Special Assistant to the Governor for Coastal Adaptation and Protection, the Virginia Coastal Resilience Master Plan Project Manager and the Virginia Coastal Resilience Master Plan Project Coordinator conducted, and continue to conduct multiple outreach, engagement, coordination and presentation sessions and working meetings explaining and seeking input on the Master Plan and process with a wide range of stakeholders, including State Agencies, PDC/RC Staff, Locality Staff, Non-Governmental organizations, Business and Community organizations, Community members, Civic Organizations, Federal Partners, Academia, and many others.

The Virginia Coastal Resilience Master Plan and Web Application may be viewed here:

<https://www.dcr.virginia.gov/crmp/>

On June 4, 2021, DCR opened the first grant round of the Community Flood Preparedness Fund (CFPF) with a total of \$18M in funding available under three categories; Capacity Building and Planning, Studies, and Projects. The CFPF requires that at least 25 percent of funds disbursed from the fund is provided to low-income geographic areas. Local governments and tribal organizations were able to submit applications through September 3, 2021. Applications under the "Projects" category required a DCR approved resilience plan prior to the acceptance of applications. The resilience plan is the locally developed roadmap to address recurrent and

repetitive flooding as localities seek funding through the CFPF.

On June 15, 2021, DCR conducted a technical assistance workshop to assist potential applicants to better understand the requirements of the CFPF grant program. The workshop and associated recording and Q&A is linked below.

- **June 15, 1-3 p.m.**

[View the recording.](#)

- Read the [transcript of the recording](#) (PDF).
- Read the [chat log](#) (PDF).

3.2 State Fiscal Year 2022 through November 2021

Grant application reviews were conducted by DCR in consultation with the Secretary of Natural and Historic Resources and the Special Assistant to the Governor for Coastal Adaptation and Protection on September 21, 2021. First round awards were announced through the Governor's office in October 2021.

Using the same grant guidance and requirements, on August 5, 2021, DCR opened a second grant round of the CFPF with a total of \$17M in funding available. This grant round closed for applications on November 5, 2021 and are now under review.

DCR conducted two additional technical assistance workshops in July and August 2021 to assist potential applicants to better understand the requirements of the CFPF grant program. The workshops and associated recordings and Q&As are linked below.

- **Aug. 13, 1-3 p.m.**

[View the recording.](#)

- Read the [transcript of the recording](#) (PDF).
- Read the [chat log](#) (PDF).

- **July 15, 1-3 p.m.**

[View the recording.](#)

- Read the [transcript of the recording](#) (PDF).
- Read the [chat log](#) (PDF).

The first grant round of the CFPF closed September 3, 2021. DCR received 32 applications with total project costs of more than \$23 million. This total includes \$16 million in requested CFPF funds.

Community Flood Preparedness Fund 2021 Grant Awards for the first round:

Eastern Branch of Elizabeth River Wetland and Floodplain Restoration | \$3,000,000
City of Virginia Beach

McGuire and Chapel Drive Drainage Improvements Project | \$1,100,000
City of Richmond

Norfolk Coastal Storm Risk Management Analysis | \$900,000
City of Norfolk

Portsmouth's Data-Driven and Equity-Driven Resilience Strategy | \$527,949
City of Portsmouth

Lake Whitehurst Watershed Study | \$500,000
City of Norfolk

Plans and Capacity Building with Consultant Services | \$387,500
Buchanan County

Oyster Plan - Capacity Building and Resilience Planning | \$202,232
Northampton County

Resilient Hampton: Downton Hampton, Phoebus and Buckroe Beach | \$158,681
City of Hampton

Moore's Creek Watershed | \$153,500
City of Charlottesville

Honor Park Resilience Park | \$147,994
City of Hampton

Mill Point Living Shoreline | \$126,498
City of Hampton

Resilient Stormwater Capacity and Green Streets Project | \$115,200
City of Alexandria

Richmond Manchester and Shockoe Bottom Neighborhoods | \$103,500
City of Richmond

Southern Chesapeake - Watershed 5 | \$91,404
City of Chesapeake

Resilience Plan | \$74,997
City of Chesapeake

Capacity Building and Planning | \$68,024
City of Suffolk

Resilience Plan | \$65,040
City of Winchester

The Impacts of Climate Change on Crop Planning and Production: An Agricultural Study of the Eastern Shore | \$47,121
Accomack-Northampton Planning District Commission

Carlton Road Boat Ramp, Wake, Virginia - Design and Permitting | \$26,400
Middle Peninsula Planning District Commission (Middlesex County)

A third RGGI auction occurred during September 2021 and provided an additional \$23,781,288.82 in funding to the CFPF. A third grant round is currently under development. That application period will open in January 2022 and run for 90 days.

The fourth RGGI auction in December 2021 will provide sufficient funding to initiate loans by mid-2022. DCR and the Virginia Resource Authority (VRA) will soon begin meeting to develop loan guidelines, such as any requirements for collateral.

The Virginia Coastal Resilience Master Plan Phase One was completed on November 30th, on schedule, and released by Governor Ralph Northam on December 7th, 2021. The Public Announcement event was held in Hampton, Virginia. The Department of Conservation and Recreation also opened its Virginia Coastal Resilience Master Plan website and Web Application on December 7th, making the full impact assessment and project database available to the public. Coastal Flood Hazard layers are downloadable for use by localities and the public, and additional data layers are being made available for download in the future. The Project Database will be accessible to localities and identified users to continue to add projects and capacity building needs for further evaluation and funding consideration as additional risks are evaluated and analyzed in future iterations of the Master Plan.

The Special Assistant to the Governor, along with the VCRMP Project Manager and Project Coordinator are now coordinating with Stakeholders to determine and refine the Additional Services, with a focus on the Dynamic Future Condition Modeling, and fluvial and pluvial modeling. In addition, they are developing and Outreach and Engagement plan to continue through the Additional Services portion of the contract to facilitate a sustained public planning and input process.

The Virginia Coastal Resilience Master Plan and Web Application may be viewed here:
<https://www.dcr.virginia.gov/crmp/>

SECTION 4 – DEPARTMENT OF ENERGY

4.1 Overview of Participation

Throughout 2021, Virginia Department of Energy ("Virginia Energy") staff participated in advisory discussions with DHCD relating to low-income energy efficiency programs, including programs for eligible housing developments. This included participation as an "Agency Partner" in meetings with the Housing Innovations in Energy Efficiency ("HIEE") Stakeholder Advisory Group, as well as direct discussions with DHCD staff on matters relating to program development, funding opportunities, and data analysis. Virginia Energy staff provided recommendations pertaining to how historically economically disadvantaged communities ("HEDCs") could be a component of the program and data analysis to ensure the program funds are benefitting disadvantaged communities. Virginia Energy staff will continue to serve as advisors to the program and are available for additional technical assistance upon request.